

fluoride, molybdenum disulfide, boron nitride, and polyethylene powder; corrosion inhibitors, such as amines, alkanolamines, amides, carboxylic acids, carboxylates, sulfonates, phosphoric acid, and phosphate; metal deactivators, such as benzotriazole and thiadiazole; antifoamers, such as methylsilicone, fluorosilicone, and polyacrylates; and ashless dispersants, such as alkenylsuccinimides, benzylamines, and polyalkenylamineaminoamide. No particular limitation is imposed on the content of these known additives. However, the additives are generally added such that that total amount thereof is within the range of 0.1 to 10 percent by mass, based on the total mass of the oil composition.--

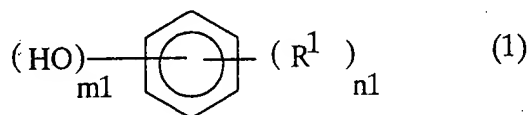
In the claims:

Please cancel claims 9 and 12.

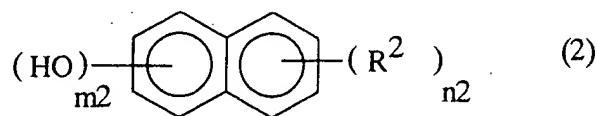
Please amend claims 1, 10, 11, 13, 14, 15, and 17 - 20 to read as follows:

--1. (Twice Amended) A cutting or grinding oil composition for a minimal quantity lubrication system comprising 20 to 100 percent by mass of an ester, 0 to 50 percent by mass of an oiliness improver, 0 to 10 percent by mass of an oxidation inhibitor, and 0 to 70 percent by mass of a base oil based on a total mass of the composition, wherein the composition has a kinematic viscosity of 1 to 100 mm²/s at 40 °C.

10. (Amended) The oil composition according to claim 1, wherein said oiliness improver is selected from the group consisting of (A) alcohols, (B) carboxylic acids, (C) sulfides of unsaturated carboxylic acids, (D) compounds represented by formula (1) given below, (E) compounds represented by formula (2) given below, (F) polyoxyalkylene compounds, and (G) esters;
said formula (1) being represented by the formula



wherein R^1 is a hydrocarbon group having 1 to 30 carbon atoms, m_1 is an integer from 1 to 6, and n_1 is an integer from 0 to 5; and said formula (2) being represented by the formula



wherein R^2 is a hydrocarbon group having 1 to 30 carbon atoms, m_2 is an integer from 1 to 6, and n_2 is an integer from 0 to 5.

C³ 11. (Amended) The oil composition according to claim 1, wherein said oiliness improver is contained in an amount of 0.1 to 50 percent by mass, based on the total mass of the composition.

C⁴ 13. (Amended) The oil composition according to claim 1, wherein said oxidation inhibitor is one or more compounds selected from the group consisting of L-ascorbic acid (vitamin C), fatty acid ester of L-ascorbic acid, tocopherol (vitamin E), 2,6-di-tert-butyl-p-cresol (DBPC), 3,5-di-tert-butyl-4-hydroxyanisole, 2-tert-butyl-4-hydroxyanisole, 3-tert-butyl-4-hydroxyanisole, 1,2-dihydro-6-ethoxy-2,2,4-trimethylquinoline (ethoxyquin), 2-(1,1-dimethyl)-1,4-benzenediol (TBHQ), and 2,4,5-trihydroxybutyrophenone (THBP).

14. (Amended) The oil composition according to claim 1, wherein said oxidation inhibitor is one or more compounds selected from the group consisting of L-ascorbic acid (vitamin C), fatty acid ester of L-ascorbic acid, tocopherol (vitamin E), 2,6-di-tert-butyl-p-cresol (DBPC), and 3,5-di-tert-butyl-4-hydroxyanisole.

15. (Amended) The oil composition according to claim 1, wherein said oxidation inhibitor is contained in an amount of 0.1 to 10 percent by mass, based on the total mass of the composition.

C⁵ 17. (Amended) A minimal quantity lubrication system for cutting or grinding which comprises supplying together with a compressed fluid an oil composition in a quantity of

0.001 ml/minute to 1 ml/minute to the cutting or grinding spot of a work, wherein the oil composition comprises 20 to 100 percent by mass of an ester, 0 to 50 percent by mass of an oiliness improver, 0 to 10 percent by mass of an oxidation inhibitor, and 0 to 70 percent by mass of a base oil based on a total mass of the composition, and the composition has a kinematic viscosity of 1 to 100 mm²/s at 40 °C.

18. (Amended) The cutting or grinding oil composition according to claim 1, wherein said ester is contained in an amount of at least 30 percent by mass based on the total mass of the composition.

19. (Amended) The cutting or grinding oil composition according to claim 1, wherein said ester is contained in an amount of at least 50 percent by mass based on the total mass of the composition.

20. (Amended) A method for cutting or grinding a work which comprises:

(a) cutting or grinding a work such that the work has a cutting or grinding spot; and

(b) supplying to the cutting or grinding spot of the work an oil composition from a minimal quantity lubrication system wherein the minimal quantity lubrication system comprises supplying together with a compressed fluid the oil composition in a quantity of 0.001 ml/minute to 1 ml/minute; wherein the oil composition comprises 20 to 100 percent by mass of an ester, 0 to 50 percent by mass of an oiliness improver, 0 to 10 percent by mass of an oxidation inhibitor, and 0 to 70 percent by mass of a base oil based on a total mass of the composition, and wherein the composition has a kinematic viscosity of 1 to 100 mm²/s at 40 °C.--

Please add the following new claims:

--21. (New) The cutting or grinding oil composition according to claim 1, wherein said ester is an ester of a polyhydric alcohol and a monobasic acid, and said polyhydric alcohol is a dihydric to decahydric alcohol selected from the group consisting of ethylene glycol, diethylene glycol, propylene glycol, dipropylene glycol, 1,3-propane diol, 1,2-propane diol, 1,3-

butane diol, 1,4-butane diol, 2-methyl-1,2-propane diol, 2-methyl-1,3-propane diol, 1,2-pentane diol, 1,3-pentane diol, 1,4-pentane diol, 1,5-pentane diol, neopentyl glycol, glycerin, polyglycerin, trimethylolalkane and dimers through tetramers thereof, pentaerythritol and dimers through tetramers thereof, 1,2,4-butane triol, 1,3,5-pentane triol, 1,2,6-hexane triol, 1,2,3,4-butanetetrol, sorbitol, sorbitan, sorbitol glycerin condensation products, adonitol, arabitol, xylytol, mannitol, and saccharides.

22. (New) The cutting or grinding oil composition according to claim 1, wherein said ester is an ester of polyhydric alcohol and a monobasic acid, and said polyhydric alcohol is a dihydric to hexahydric alcohol selected from the group consisting of ethylene glycol, diethylene glycol, propylene glycol, dipropylene glycol, 1,3-propane diol, 2-methyl-1,2-propane diol, 2-methyl-1,3-propane diol, neopentyl glycol, glycerin, diglycerin, triglycerin, trimethylolalkane and dimers through tetramers thereof, pentaerythritol, dipentaerythritol, 1,2,4-butane triol, 1,3,5-pentane triol, 1,2,6-hexane triol, 1,2,3,4-butane tetrol, sorbitol, sorbitan, sorbitol glycerin condensation products, adonitol, arabitol, xylytol and mannitol.

23. (New) The cutting or grinding oil composition according to claim 1, wherein said ester is an ester of a polyhydric alcohol and a monobasic acid, and said polyhydric alcohol is a dihydric to hexahydric alcohol selected from the group consisting of ethylene glycol, propylene glycol, neopentyl glycol, glycerin, trimethylol ethane, trimethylol propane, pentaerythritol and sorbitan.

24. (New) The cutting or grinding oil composition according to claim 1, further comprising at least one additive selected from the group consisting of an extreme pressure additive, a moisture control additive, a film forming agent, a water substituting agent, a corrosion inhibitor, a metal deactivator, an antifoamer, and an ashless dispersant.--